

ENVIRONMENTAL STUDIES

1. Introduction

Credits: 4-0-0

2. Course Outline

UNIT - I: The multidisciplinary nature of environmental studies

Definition, Scope and importance Environmental Milestones

UNIT - II: Ecosystems

Concept of an ecosystem (Abiotic and biotic environment), Structure and function of an ecosystem Producers, Consumers and decomposers. Energy flow in the ecosystem, (Nutrient cycle in the ecosystem) Ecological succession Food chain, food webs and ecological pyramids. Introduction, types, characteristic features, structure and function of the following ecosystems: Forest ecosystem, Grassland ecosystem, Desert ecosystem aquatic ecosystems (ponds, streams, lakes, rivers, ocean estuaries).

UNIT – III: Biodiversity

Conservation: Introduction, Definition: genetic, species and ecosystem diversity, Hot spots of biodiversity, Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts. Endangered and endemic species of India, Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

UNIT – IV:

Natural Resources and non-renewable resources An overview of natural resources and associated problems with references to a) Forest resources b) Water resources c) Mineral resources d) Food resources e) Energy resources f) Land resources.

UNIT – V: Environmental Pollution

Definition a) Air pollution b) Water pollution c) Soil pollution d) Marine pollution e) Noise pollution f) Thermal pollution g) Nuclear pollution Solid waste management: Causes, effects and control measures of urban and industrial wastes. Environmental impact assessment.

UNIT – VI:

Environment: Socio-Political Issues: Environmental Ethics: Science/Nature Debate) Global Environmental Issues a) Global Warming, Climate Change, Acid Rain, Ozone layer depletion, Pollution) Global Environmental Issues a) Deforestation, Loss of Biodiversity, Desertification, Land Degradation) Global Convention on Environment: Indian environmental Laws.

UNIT – VII: Human –Environment Interaction

Modes of Resource Use, Development and Environment Population growth and Environment, Environment and Human Health. Unit 8: Project Work (Group of...) Select List of Themes: Study of simple ecosystem: pond/lake/rocks, biodiversity Register of Campus Pollution Energy sources Water Conservation Waste Disposal and Recycling GM crops.